

Quick Instructions for replacement of the deuterium (p/n 96-90297) or tungsten-halogen lamp (p/n 96-90275) in the Uvikon XS/XL

© 2006-2007, Research Instruments International. All rights reserved. Telephone 858-689-1100

You will need three tools:

One small slotted ("minus") screwdriver

One 3 mm* Allen wrench and one 2.5 mm* Allen wrench

*Don't use Allen wrenches with British/USA dimensions

To replace the VIS lamp, use the instructions for the D2 lamp below.

Do not touch the bare lamps with your hands.

1. First unplug the Uvikon, then prepare space to open it.

Turn off and unplug the Uvikon. Do not proceed until the Uvikon is off and unplugged.

The newest Uvikon XS/XLs have a removable 6"x8" panel above the lamps for quick lamp replacement. If your unit includes this panel, then with Uvikon OFF and unplugged, use a 3 mm Allen wrench to loosen the one captive screw on this panel, remove the panel, and then skip to section 4 below now.

2. Remove the sample compartment's end panels, then its lid.

Clear enough space on the left side of the Uvikon (relative to the Uvikon's front—which has the small panel labeled UVIKON and the four icons). Open the Uvikon's sample compartment and then lift each end panel straight up (end panels are held in by gravity with a bit of friction). *Do not remove the grey hinged sample compartment lid yet.*

With the two end panels out, you will then see two aluminum blocks (each about 1 × ¾ inch) which are the lower portion of the lid's hinge assembly. First loosen the slotted set-screw in each of these aluminum blocks (do not remove these set screws).

Do this next step carefully: grab both ends of the grey sample compartment lid and lift it straight up – without rocking the lid unevenly – so as to lift the attached pins straight out from their blocks. A hinge pin (\$\$) will snap off if the lid is lifted unevenly.

3. Remove the Uvikon's metal lid.

The Uvikon is unplugged, OK? On the right side of the Uvikon, hidden underneath where the metal cover-panel overlaps the chassis, are two aircraft-type (captive-bolt) screws. Move the Uvikon so you have access to these bolts. Using the 3 mm wrench, turn these bolts just until they are loose (do not try to remove). Using the handle built into the *right* side of the Uvikon's metal cover, carefully lift the cover (it's hinged on its left side). *Do not let go of the lid* or it will suddenly descend by itself.

Next to one of the metal cover's hinges is a green-and-white ground cable connecting the cover and the chassis. Pull the ground cable's connector straight out.

Lift the metal cover's hinges out from their hinge plates, and set the cover aside.

4. Remove the old deuterium lamp (this following procedure is only for the pre-aligned deuterium lamp, p/n 96-90297. If your current deuterium lamp itself is enclosed within an aluminum cylinder, call us for different instructions).

With the Uvikon already unplugged, disconnect from the power supply the three-wire (black/black/red) connector for the current deuterium lamp (which is upside-down), and segregate its three wires from the round plastic clip(s) holding the tungsten lamp's wires.

On the aluminum base (which is facing upwards) of the current (already-installed) **deuterium** lamp is one bolt plus two 'empty'

holes. Using the 2.5 mm Allen wrench, unscrew, remove, and *retain this long bolt and its washer*. At the bottom of the 'empty' hole nearest the optics' large black cover is a short locating pin that is built into the non-removable portion of the lamp compartment. You won't be able to see this stationary locating pin until the current lamp is removed. Lift the old lamp straight up and out. Even if the stationary locating pin may stick a bit inside the hole in the lamp's base, don't rock the lamp's base excessively.

5. Replace with new lamp.

Insert the new deuterium lamp which is pre-aligned to fit over the locating pin. (The tungsten lamp is also pre-aligned but in a self-evident different manner.) Reinsert the retained washer and its long bolt into the lamp's base and tighten (just medium tightness).

The new D₂ lamp's five-pin connector has a clip on one side; match the proper side with the corresponding plug on the power supply. Plug in the connector and check that it is all the way down. (The tungsten lamp has two wires going into its 4-pin connector.) Neaten the cables within the round plastic clip(s), and close the clip(s). [If your Uvikon has the 6"x8" panel mentioned above, re-insert and close the panel; then skip to section 7 below now.]

6. Close up the system.

Re-connect the metal cover's grounding cable to its connector on the chassis. Reinsert the metal cover's (not the sample compartment's cover) hinges into their hinge plates. Don't let go of this cover!

Carefully lower the metal cover, making sure it clears the front circuit board. Re-fasten the two captive bolts between the chassis and cover. Holding the sample compartment's lid level and even, insert the two hinge pins into their blocks. Don't twist/bend the hinge pins. Tighten each set-screw in the hinge pins' blocks (just finger tight). Reinsert the two sample compartment end panels. If the sample compartment lid does not descend all the way to provide the normal 'click', look straight down on both end-panels to ensure that they are in their slots correctly.

7. Then plug in the Uvikon and turn it on.

Launch LabPowerJr, and after it shows 'Ready', click Utilities... Energy. (You must be in fixed wavelength mode with no open data windows in order to access the Energy utility.) Select the UV lamp energy check, then 'Execute.' Important: the reported 'new' energy will *not* be 100%, nor should it be 100% for the reasons below. *Any* value between 15-20% or so to more than 100% is totally reasonable. The reported value is relative to an internally-stored value set when the Uvikon's initial lamp was installed at the factory. Replacement lamps, although identical in manufacturer, model, and design, always place somewhat different amounts of energy into the system; no two deuterium lamps produce identical energy readings. What's important is to note only the *relative change* in energy as this *newly*-installed lamp ages compared to its initial energy reading when it was installed today. Some lamp manufacturers define a lamp's expiration as the point where it produces less than 50% of its initial energy. Nonetheless, with the Uvikon's double-beam design the lamp may remain usable for many hours after that point, although its noise slowly increases with time. Eventually a D₂ lamp will refuse to ignite – or it will start but then shut down by itself after a few minutes. By that time it's more than used up.